

Abstract of the Disclosure:

An apparatus for testing wafer-level semiconductor devices, in particular memory chips in which a tunable light source radiates energy onto the semiconductor devices. The tunable

5 light source is constructed to adjust the radiated light to a specific wavelength and to a specific intensity and to project the light for a predetermined time. When the semiconductor devices are irradiated with the light, electrons in defective ones of the semiconductor devices, in which a distance between a valence band and a conduction band has a lower value as compared with that of defect-free ones of the semiconductor devices, can be transferred into the conduction band from the valence band. These defective or "poor" semiconductor devices can thus be separated out.

10
20
30
40
50
60
70
80
90
100
110
120
130
140
150
160
170
180
190
200
210
220
230
240
250
260
270
280
290
300
310
320
330
340
350
360
370
380
390
400
410
420
430
440
450
460
470
480
490
500
510
520
530
540
550
560
570
580
590
600
610
620
630
640
650
660
670
680
690
700
710
720
730
740
750
760
770
780
790
800
810
820
830
840
850
860
870
880
890
900
910
920
930
940
950
960
970
980
990
1000

MPW/tk